

## WHAT IS CLAIMED IS:

1. A method for performing Traffic Flow Template (TFT) filtering according to Internet Protocol (IP) versions in a mobile communication system capable of supporting an address of a first IP version including first bits and an address of a second IP version including second bits containing the first bits, the method comprising the steps of:

extracting IP version-based information from a source IP address; and  
generating TFT information containing the extracted information and transmitting the generated TFT information to a Gateway GPRS (General Packet Radio Service) Support Node (GGSN).

2. The method as set forth in claim 1, wherein the step of extracting the IP version-based information from the source IP address is performed by extracting the first bits of the first IP version address being the IP version-based information from the second IP version address when the source IP address is the second IP version address into which the first IP version address is inserted.

3. The method as set forth in claim 1, wherein the second IP version address into which the first IP version address is inserted is a first IP version-compatible second IP version address or a first IP version-mapped second IP version address.

4. The method as set forth in claim 3, wherein the first IP version-compatible second IP version address is an address used between networks capable of supporting both a first IP of the first IP version and a second IP of the second IP version.

5. The method as set forth in claim 3, wherein the first IP version-mapped second IP version address is an address used between a network capable of

supporting only a first IP of the first IP version and a network capable of supporting both the first IP of the first IP version and a second IP of the second IP version.

6. The method as set forth in claim 1, wherein the first IP version is an IPv4 (IP version 4) and the second IP version is an IP version 6 (IPv6).

5           7. A method for performing Traffic Flow Template (TFT) filtering according to Internet Protocol (IP) versions in a mobile communication system capable of supporting an address of a first IP version including first bits and an address of a second IP version including second bits containing the first bits, the method comprising the steps of:

10           when TFT information is received and the received TFT information corresponds to the second IP version address into which the first IP version address is inserted, extracting the first bits of the first IP version address from the second IP version address;

              generating new TFT information from the extracted first bits of the first IP  
15   version address;

              when an IP address of received packet data corresponds to the second IP version and the IP address is the second IP version address into which the first IP version address is inserted, extracting the first bits representing the first IP version address from the second IP version address; and

20           performing the TFT packet filtering using the first bits extracted from the received packet data.

8. The method as set forth in claim 7, wherein the second IP version address into which the first IP version address is inserted is a first IP version-compatible second IP version address or a first IP version-mapped second IP version address.

25           9. The method as set forth in claim 8, wherein the first IP version-compatible

second IP version address is an address used between networks capable of supporting both a first IP of the first IP version and a second IP of the second IP version.

10. The method as set forth in claim 8, wherein the first IP version-mapped  
5 second IP version address is an address used between a network capable of supporting only a first IP of the first IP version and a network capable of supporting both the first IP of the first IP version and a second IP of the second IP version.

11. The method as set forth in claim 7, wherein the first IP version is an IPv4 (IP version 4) and the second IP version is an IP version 6 (IPv6).

10 12. A method for performing Traffic Flow Template (TFT) filtering according to Internet Protocol versions in a mobile communication system capable of supporting an address of a first IP version including first bits and an address of a second IP version including second bits containing the first bits, the method comprising the steps of:

15 when a source IP address is the second IP address into which the first IP version address is inserted, allowing User Equipment (UE) to extract the first bits of the first IP version address from the second IP version address;

allowing the UE to generate packet filter contents from the extracted first bits of the first IP version address, to generate TFT information containing the  
20 packet filter contents, and to transmit the generated TFT information to a Gateway GPRS (General Packet Radio Service) Support Node (GGSN);

allowing the GGSN to store the TFT information received from the UE and to extract the first bits representing the first IP version address from the second IP version address when an IP address of received packet data corresponds to the  
25 second IP version and the IP address is the second IP version address into which the first IP version address is inserted; and

allowing the GGSN to perform the TFT packet filtering using the first bits extracted from the received packet data.

13. The method as set forth in claim 12, wherein the second IP version address into which the first IP version address is inserted is a first IP version-compatible second IP version address or a first IP version-mapped second IP version address.

14. The method as set forth in claim 13, wherein the first IP version-compatible second IP version address is an address used between networks capable of supporting both a first IP of the first IP version and a second IP of the second IP version.

15. The method as set forth in claim 13, wherein the first IP version-mapped second IP version address is an address used between a network capable of supporting only a first IP of the first IP version and a network capable of supporting both the first IP of the first IP version and a second IP of the second IP version.

16. The method as set forth in claim 12, wherein the first IP version is an IPv4 (IP version 4) and the second IP version is an IP version 6 (IPv6).

17. An apparatus for performing Traffic Flow Template (TFT) filtering according to Internet Protocol (IP) versions in a mobile communication system capable of supporting an address of a first IP version including first bits and an address of a second IP version including second bits containing the first bits, the apparatus comprising:

a controller for extracting the first bits of the first IP version address from the second IP version address when TFT information is received and the received TFT information corresponds to the second IP version address into which the first IP

version address is inserted, and for generating new TFT information from the extracted first bits of the first IP version address; and

a memory for storing the received TFT information as the new TFT information.

5           18. The apparatus as set forth in claim 17, wherein the controller comprises:  
a TFT packet filtering procedure for extracting the first bits representing the first IP version address from the second IP version address when an IP address of received packet data corresponds to the second IP version and the IP address is the second IP version address into which the first IP version address is inserted, and for  
10 performing the TFT packet filtering using the first bits extracted from the received packet data.

19. The apparatus as set forth in claim 17, wherein the second IP version address into which the first IP version address is inserted is a first IP version-compatible second IP version address or a first IP version-mapped second IP  
15 version address.

20. The apparatus as set forth in claim 19, wherein the first IP version-compatible second IP version address is an address used between networks capable of supporting both a first IP of the first IP version and a second IP of the second IP version.

20           21. The apparatus as set forth in claim 19, wherein the first IP version-mapped second IP version address is an address used between a network capable of supporting only a first IP of the first IP version and a network capable of supporting both the first IP of the first IP version and a second IP of the second IP version.

22. The apparatus as set forth in claim 18, wherein the first IP version is an

IP version 4) (IPv4) and the second IP version is an IP version 6 (IPv6).

23. An apparatus for performing Traffic Flow Template (TFT) filtering according to Internet Protocol (IP) versions in a mobile communication system capable of supporting an address of a first IP version including first bits and an  
5 address of a second IP version including second bits containing the first bits, the apparatus comprising:

User Equipment (UE) for extracting the first bits of the first IP version address from the second IP version address when a source IP address is the second IP version address into which the first IP address is inserted, for generating TFT  
10 information from the extracted first bits of the first IP version address, and for transmitting the generated TFT information to a Gateway GPRS (General Packet Radio Service) Support Node (GGSN); and

the GGSN for storing the TFT information received from the UE, for extracting the first bits representing the first IP version address from the second IP  
15 version address when an IP address of received packet data corresponds to the second IP version and the IP address is the second IP version address into which the first IP version address is inserted, and for performing the TFT packet filtering using the first bits extracted from the received packet data.

24. The apparatus as set forth in claim 23, wherein the GGSN comprises:

20 a TFT packet filtering procedure for extracting the first bits representing the first IP version address from the second IP version address when the IP address of the received packet data corresponds to the second IP version and the IP address is the second IP version address into which the first IP version address is inserted, and for performing the TFT packet filtering using the first bits extracted from the  
25 received packet data; and

a memory for storing the TFT information received from the UE.

25. The apparatus as set forth in claim 23, wherein the second IP version address into which the first IP version address is inserted is a first IP version-compatible second IP version address or a first IP version-mapped second IP version address.

5           26. The apparatus as set forth in claim 25, wherein the first IP version-compatible second IP version address is an address used between networks capable of supporting both a first IP of the first IP version and a second IP of the second IP version.

10           27. The apparatus as set forth in claim 25, wherein the first IP version-mapped second IP version address is an address used between a network capable of supporting only a first IP of the first IP version and a network capable of supporting both the first IP of the first IP version and a second IP of the second IP version.

28. The apparatus as set forth in claim 23, wherein the first IP version is an IP version 4 (IPv4) and the second IP version is an IP version 6 (IPv6).